



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/588,841	08/08/2006	Detlef Lauk	022862-1090-00	1054
23409 7590 12/16/2011 MICHAEL BEST & FRIEDRICH LLP 100 E WISCONSIN AVENUE Suite 3300 MILWAUKEE, WI 53202				
EXAMINER				
LUONG, VINH				
ART UNIT		PAPER NUMBER		
3656				
NOTIFICATION DATE		DELIVERY MODE		
12/16/2011		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mkeipdocket@michaelbest.com

Office Action Summary**Application No.**

10/588,841

Applicant(s)

LAUK ET AL.

Examiner

Vinh Luong

Art Unit

3656

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2011 and 25 May 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1, 4-9 and 15-27 is/are pending in the application.
- 5a) Of the above claim(s) 7-9 and 17-19 is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1, 4-6, 15, 16 and 20-27 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☒ The drawing(s) filed on 23 February 2011 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date ____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☒ Other: Appendix

1. The supplemental response filed on May 25, 2011 and the amendment filed on May 2, 2011 have been entered.
2. The restriction and the election of the species of FIGS. 1a-2l in the parent application are carried over to the instant request for continuing examination (RCE) application. Please see MPEP § 819.
3. Claims 7-9 and 17-19 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on March 29, 2010.
4. The drawings were received on February 23, 2011. These drawings are accepted by the Examiner.
5. Claim 26 objected to because of the informalities such as grammatical or typographical error, *e.g.*, the terms “first fore part” in line 2 should have been changed to “the first fore part.” Appropriate correction is required.
6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
7. Claims 1, 4-6, 15, 16, and 20-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merkel (WO 01/21460) in view of Hawighorst (WO 03/039922) and further in view of Carlson et al. (US 3,039,798).

As noted, WO 01/21460 and WO 03/039922 cited in the International Search Report correspond to US 6,802,102 and US 2004/0163483 respectively. In the rejection below, the Examiner uses US 6,802,102 and US 2004/0163483 as translation of these WO references.

Claim 1

Merkel teaches a crankshaft, for a wind-shield wiper system, in which a shaft 14 is connected to a crank 12 so as to drive the shaft 14 wherein the crank 14 is connected to the shaft 12 via a structural part 44 having first and second fore parts (see Appendix hereinafter “Appendix”), wherein the first fore part (App.) projects into a bore hole (App.) of the crank.

Merkel teaches the invention substantially as claimed. However, Merkel does not teach the crosspiece on the second fore part for support a counter bearing and the crank connected to the structure part by a press fit.

Hawighorst teaches the crosspiece 44 on the second fore part for support the counter bearing 26.

Carlson teaches the press-fitting in order to connect the crank 10 to the structure part 18 (*id.* 2:37-67). Note that the connection by press-fitting is notoriously well known as evidenced by the cited references (see, e.g., claim 5 of US 6,802,102 of Merkel; claim 5 of US 6,491,439 of Zimmer; claim 3 of US 6,287,007 of Zimmer; and abstract of US 6,138,320 of Komo).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to: (a) form the crosspiece on Merkel’s second fore part for support the counter bearing as taught or suggested by Hawighorst; and (b) press-fit Merkel’s crank to Merkel’s structure part in order to connect Merkel’s crank to Merkel’s structure part as taught or suggest by Carlson. The modification of Merkel’s crankshaft by forming the cross piece as taught by Hawighorst and using the press-fitting in order to connect Merkel’s crank to Merkel’s structure part as taught or suggested by Carlson would not have been uniquely challenging to a person of ordinary skill in the art because it is no more than “the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art

ready for the improvement.” *KSR Int’l. Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007) and it “does no more than yield predictable results.” *KSR* at 1739.

Claim 4

Hawighorst’s crosspiece 44 forms a base of a sleeve 46 extending away from the first fore part 42 and the second fore part (at 44 in FIG. 3) in the axial direction.

Claims 5 and 15

Merkel’s structural part 44 is connected to the shaft 14 at least in a rotationally secured manner.

Claims 6 and 16

Merkel’s structural part 44 has a cylindrical outer wall (at the bore hole in App.).

Claim 20

Merkel’s first fore part (App.) extends axially into and along the bore hole (App.) of the crank 12.

Claim 21

One of the bore hole 14 of Carlson’s crank 10 and the structural part 18 includes a knurl 24, such that the crank 10 is rotationally coupled to the structural part 18 by the press fit. (Carlson 2:37-54)

Claim 22

When at least one of Merkel’s shaft 14 and Merkel’s first fore part (App.) is knurled as taught or suggested by Carlson, Merkel’s shaft 14 or Merkel’s first fore part includes a non-circular portion at the knurled surface (similarly to, e.g., Applicant’ FIG. 2e-k) such that Merkel’s shaft 14 is rotationally coupled to Merkel’s first fore part (App.).

Claim 23

The shaft 14, the crank 12 and the structural part 44 of Merkel are axially fixed.

Claim 24

Merkel's first fore part (App.) includes a sleeve (at the bore hole in App.) surrounding a portion of the shaft 14, such that the sleeve is coupled for rotation with the shaft 14, and such that the crank 12 is coupled to the sleeve by the press fit as taught or suggested by Carlson.

Claim 25

Merkel's shaft 14 is knurled or fluted at 46 in FIG. 1, thus, Merkel's shaft 14 ends in a polygonal element (similarly to, *e.g.*, Applicant's FIG. 2g or 2k), wherein the sleeve (at 46 in Merkel's FIG. 1) is press fit on the polygonal element 46.

Claim 26

Merkel's first fore part (App.) extends axially along the shaft 14 and Merkel's second fore part (App.) extends radially from the shaft 14 (FIG. 1).

Claim 27

See claim 1 above and note that Hawighorst's crosspiece 44 supports itself on a gear housing 26 or a bearing flange of an eccentric bush 26 (FIG. 3), on which the crankshaft arrangement 24 is arranged.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Hulquist et al. (polygonal shaft 37), Bauer et al. (knurled cone 14), and Ito (knurled projection 2).
9. Applicant's arguments filed May 2, 2011 have been fully considered but they are not persuasive.

Applicant's arguments with respect to pending claims have been considered but are moot in view of the new ground(s) of rejection.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vinh T. Luong whose telephone number is 571-272-7109. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Vinh T Luong/
Primary Examiner, Art Unit 3656